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10/699,881	11/04/2003	Darwin Hu	MR1957-795	3502
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ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043				STOREY, WILLIAM C
ART UNIT		PAPER NUMBER		
4115				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/699,881	HU, DARWIN	
	<b>Examiner</b>	<b>Art Unit</b>	
	WILLIAM C. STOREY	4115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 04 November 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-36 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-36 is/are rejected.  
 7) Claim(s) 1,3,4,8,9,17 and 31 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/4/2003</u> .   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 17 & 31 refers to "the interface" of claim 8; however, no interface is disclosed in claims 8 or 22.

### ***Claim Objections***

2. Claim 4 is objected to because of the following informalities: "Providing a software" should be "providing software." Appropriate correction is required.

3. Claim 1, 8, 9 and all claims where the subject of the following objection is found are objected to because of the following informalities: Scanner should be all lowercase. Appropriate correction is required.

4. Claim 3 is objected to because of the following informalities: "Counter set an predetermined period of time" should be changed to "counter set a predetermined period of time." Appropriate correction is required.

5. Claim 8 is objected to because of the following informalities: "second and third scanned image signals" should be "second and third scanned image signal." Appropriate correction is required.

6. Claim 8 is objected to because of the following informalities: "Third document reading sessions, respectively, once triggered" should read "third document reading sessions once triggered, respectively,." Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 3, 5-10, 13-15, 22-24, & 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawahara et al. (US 6327057), hereinafter referred to as Kawahara.

Regarding claim 1, Kawahara discloses a method of operating a concatenated contact image-sensing module scanner wherein the concatenated contact image-sensing module scanner includes a plurality of contact image sensors module (CIS) (column 2, lines 18-20 and figure 1b. More contact type linear image sensors could be connected in a similar fashion.), comprising: providing a first contact image sensor module for executing a first document reading session through the trigger of a start pulse (column 2, lines 4-8 and figure 1a), and then the first contact image sensor module outputting a corresponding first scanned image signal (column 10, lines 10-14 and figure 1a); providing a second contact image sensor module operatively connected to the first contact image sensor module for executing a second document reading session and then the second contact image sensor module outputting a corresponding second scanned image signal (similar to disclosed above for sensor 1; shown connected in figure 1b); and providing a third contact image sensor module operatively connected to the second contact image sensor module for executing a third document

reading session and then the third contact image sensor module outputting a corresponding third scanned image signal (similar to disclosed above for sensor 1; shown connected in figure 1b); wherein the first, the second and the third scanned image signals are selected to be outputted sequentially (figure 1b and column 2, lines 22-25).

Regarding claim 2, Kawahara discloses everything as applied above for claim 1. In addition, Kawahara discloses the method of claim 1, further comprising a step of providing a first end pulse and a second end pulse outputted from the first and the second contact image sensors module to the second and the third contact image sensor module , respectively, for triggering executions of the second and third document reading sessions (figure 1b and column 2, lines 22-25).

Regarding claim 3, Kawahara discloses everything as applied above for claim 1. In addition, Kawahara discloses the method of claim 1, further comprising a step of providing an analog switch for receiving the first, the second and the third scanned image signals, wherein the analog switch further includes an internal counter therein wherein the internal counter sets an predetermined period of time in order to have the analog switch to select and output one of the first, the second and the third scanned image signals in a sequential manner (figure 1a and 1b. The clock signal sets a count or time for the analog switch to operate to.).

Regarding claim 5, Kawahara discloses everything as applied above for claim 1. In addition, Kawahara discloses the method of claim 1, further comprising a step of

providing a timing generator for providing the start pulse to the first contact image sensor module (column 2, lines 8-10 and figure 1a.).

Regarding claim 6, Kawahara discloses everything as applied above for claim 1. In addition, Kawahara discloses the method of claim 1, wherein the first and the second contact image sensor module further output a first end pulse and a second end pulse to the second and the third contact image sensor module, respectively, as the first and the second document reading sessions are finished, for triggering executions of the second and the third document reading sessions (figure 1b and column 2, lines 22-25).

Regarding claim 7, Kawahara discloses everything as applied above for claim 1. In addition, Kawahara discloses the method of claim 1, further comprising a step of placing a first series of contact image sensor module and a second series of contact image sensor module disposed horizontally with respect to the first series of contact image sensor module, wherein the first and the second series of contact image sensor module are operated sequentially (figure 1b. Image sensors in a horizontal series are shown. The addition of more or a reduction to less of sensors does not make a claim patentably distinct. The general concept is taught.).

Regarding claim 8, Kawahara discloses an optical scanner comprising: a concatenated contact image-sensing module having a plurality of contact image sensor modules each operatively connected to another in series (column 2, lines 18-20 and figure 1b. More contact type linear image sensors could be connected in a similar fashion.); and a timing generator for providing a start pulse into a first contact image sensor module to trigger a first document reading session thereof and output a first

scanned image signal (column 2, lines 8-10, figure 1a and 1b. The clock signal sets a count or time for input of start and output of end signal.); wherein the concatenated CIS scanner further comprises a second and a third contact image sensor modules for performing a second and a third document reading sessions once triggered, respectively, (figure 1b) and outputting a second and a third scanned image signal, wherein the first, the second and the third contact image sensors are triggered sequentially (figure 1b and column 2, lines 22-25).

Regarding claim 9, claim 9 is rejected based on the same reasoning applied for claim 7. Changing the claim from a method to an apparatus does not make the claim patentably distinct.

Regarding claim 10, claim 10 is similarly rejected based on the same reasoning applied for claim 9. The sensors in the reference are shown to operate sequentially as disclosed previously.

Regarding claim 13, claim 13 is rejected based on the same reasoning applied for claim 3. Changing the claim from a method to an apparatus does not make the claim patentably distinct. Claim 3 discloses the use of an analog switch operatively connected to the first, the second and the third and more contact image sensor modules, for receiving the first, the second and the third and more scanned image signals, and selecting and then outputting one of the first, the second and the third and more scanned image signals sequentially, as shown in figure 1a and 1b from the light receiving element in each respective sensor arrangement.

Regarding claim 14, claim 14 is rejected based on the same reasoning applied for claim 3. Changing the claim from a method to an apparatus does not make the claim patentably distinct.

Regarding claim 15, Kawahara discloses everything as applied above for claim 8. In addition, Kawahara discloses the optical scanner of claim 8, wherein the first and the second contact image sensor modules output a first and a second end pulses to the second and third contact image sensor modules, respectively, in order to trigger the second and the third and more contact image sensor modules sequentially (figure 1a and 1b, column 2, lines 10-14 and 22-25.).

Regarding claim 22, Kawahara discloses an optical scanner comprising: a concatenated contact image-sensing module having a plurality of contact image sensor modules each operatively connected to another in series (column 2, lines 18-20 and figure 1b. More contact type linear image sensors could be connected in a similar fashion.); and a timing generator for providing a start pulse into an end contact image sensor module to trigger a corresponding document reading session thereof and output a corresponding image signal (column 2, lines 8-10, figure 1a and 1b. The clock signal sets a count or time for input of start and output of end signal.); wherein the end contact image sensor module is located at one end of the series-connected contact image sensor modules (figure 1b); wherein the end contact image sensor module outputs a first end pulse as a second start pulse to another contact image sensor module, which is adjacently operatively connected to the end contact image sensor module, for

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outputting another scanned image signal after the document reading session of the end contact image sensor module is finished (figure 1b and column 2, lines 5-13 & 22-25).

Regarding claim 23, Kawahara discloses everything as applied above for claim  
22. Claim 23 is rejected upon the same reasoning as applied above for claim 7.

Regarding claim 24, Kawahara discloses everything as applied above for claim  
22. Claim 24 is rejected upon the same reasoning as applied above for claim 10.

Regarding claim 27, Kawahara discloses everything as applied above for claim  
22. Claim 27 is rejected upon the same reasoning as applied above for claim 13.

Regarding claim 28, Kawahara discloses everything as applied above for claim  
27. Claim 28 is rejected upon the same reasoning as applied above for claim 14.

Regarding claim 29, Kawahara discloses everything as applied above for claim  
22. Claim 29 is rejected upon the same reasoning as applied above for claim 15.

#### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 4, 11, 16, 17, 18, 25, 30, 31, 32, & 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara in view of well known prior art (MPEP 2144.03).

Regarding claim 4, Kawahara discloses everything claimed, as applied above (see claim 1); however, Kawahara fails to disclose providing software for integrating the

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corresponding outputted image signals in correspondingly sequential document reading sessions together. However, the examiner takes official notice of the fact that it was well known in the art to provide software for integrating the corresponding outputted image signals in correspondingly sequential document reading sessions together.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing software for integrating the corresponding outputted image signals in correspondingly sequential document reading sessions together, for the purpose of being able to manipulate the scanned images through a user-friendly interface.

Regarding claims 11 & 25, Kawahara discloses everything claimed, as applied above (see claims 8 & 22); however, Kawahara fails to disclose converting image signals into digitalized forms using at least one analog-to-digital converter. However, the examiner takes official notice of the fact that it was well known in the art to provide converting image signals into digitalized forms using at least one analog-to-digital converter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing converting image signals into digitalized forms using at least one analog-to-digital converter, for the purpose of providing the image data in a digital format.

Regarding claims 12 & 26, Kawahara discloses everything claimed, as applied above (see claims 11 & 25); however, Kawahara fails to disclose a digitalized image processor operatively connected to the analog-to-digital converter. However, the

examiner takes official notice of the fact that it was well known in the art to provide a digitalized image processor operatively connected to the analog-to-digital converter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing a digitalized image processor operatively connected to the analog-to-digital converter, for the purpose of being able to manipulate image data in a digital format.

Regarding claims 16 & 30, Kawahara discloses everything claimed, as applied above (see claims 8 & 22); however, Kawahara fails to disclose a scanner connected to a computer. However, the examiner takes official notice of the fact that it was well known in the art to provide a scanner connected to a computer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing a scanner connected to a computer, for the purpose of being able to modify what has been scanned.

Regarding claims 17 & 31, Kawahara discloses everything claimed, as applied above (see claims 8 & 22); however, Kawahara fails to disclose wherein [an] interface is a USB-based interface. However, the examiner takes official notice of the fact that it was well known in the art to provide wherein [an] interface is a USB-based interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing wherein [an] interface is a USB-based interface, for the purpose of using a well-known interface.

Regarding claims 18 & 32, Kawahara discloses everything claimed, as applied above (see claims 8 & 22); however, Kawahara fails to disclose a light source of the concatenated contact image-sensing module. However, the examiner takes official notice of the fact that it was well known in the art to provide a light source of the concatenated contact image-sensing module.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing a light source of the concatenated contact image-sensing module, for the purpose of using providing a light source for light-receiving elements that read picture information.

Regarding claims 19 & 33, Kawahara discloses everything claimed, as applied above (see claims 18 & 33); however, Kawahara fails to disclose wherein the light source is a colorful or monochromatic visible light. However, the examiner takes official notice of the fact that it was well known in the art to provide wherein the light source is a colorful or monochromatic visible light.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing wherein the light source is a colorful or monochromatic visible light, for the purpose of providing a well known light source for the motivation described above.

11. Claims 20, 21, 34, & 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara in view of Apperson et al. (US 6079624), hereinafter referred to as Apperson.

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Regarding claims 20 & 21 and 34 & 35, Kawahara discloses everything as applied above for claim 18 & 20, respectively, and 32 & 34, respectively. However, Kawahara fails to disclose the light source as an invisible light: as an infrared or ultraviolet light. However, the examiner maintains that it was well known in the art to provide he light source as an invisible light: as an infrared or ultraviolet light, as taught by Apperson.

In a similar field of endeavor, Apperson discloses a data processing form using a scanning apparatus. In addition, Apperson discloses he light source as an invisible light: as an infrared or ultraviolet light. Apperson discloses using infrared light emitting diodes coupled with respective infrared sensors for use in a scanner (column 9, lines 12-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing he light source as an invisible light: as an infrared or ultraviolet light, as taught by Apperson, for the purpose of detecting marks or codes in a scan.

12. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara in view of Hasegawa et al. (US 6678076), hereinafter referred to as Hasegawa.

Regarding claim 36, Kawahara discloses an optical scanner comprising: a concatenated contact image-sensing module having a plurality of contact image sensor modules each operatively connected to another in series (column 2, lines 18-20 and figure 1b. More contact type linear image sensors could be connected in a similar

fashion.); and a timing generator for providing a start pulse into an end contact image sensor module to trigger a corresponding document reading session thereof and output a corresponding image signal (column 2, lines 8-10, figure 1a and 1b. The clock signal sets a count or time for input of start and output of end signal.); and wherein the end contact image sensor module is located at one end of the series-connected contact image sensor modules (figure 1b). However, Kawahara fails to disclose wherein a portion of these CIS modules is placed in a face-up manner and another portion is placed in a face-down manner; thereby, the optical scanner being capable of scanning a double sided document. However, the examiner maintains that it was well known in the art to provide wherein a portion of these CIS modules is placed in a face-up manner and another portion is placed in a face-down manner; thereby, the optical scanner being capable of scanning a double sided document, as taught by Hasegawa.

In a similar field of endeavor, Hasegawa discloses an image reading apparatus. In addition, Hasegawa discloses wherein a portion of these CIS modules is placed in a face-up manner and another portion is placed in a face-down manner; thereby, the optical scanner being capable of scanning a double sided document (figure 10 and column 9, lines 10-20. Elements 217 and 221 are contact type image sensors that scan the face-up and face-down portions of a page; thus arranged in a face-up and face-down manner.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawahara by specifically providing wherein a portion of these CIS modules is placed in a face-up manner and another portion is

placed in a face-down manner; thereby, the optical scanner being capable of scanning a double sided document, as taught by Hasegawa, for the purpose of automatically scanning both sides of a double-sided document.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen (US 2004/0252355) discloses a flatbed scanner, automatic document feeder and duplex scanner including both of them. Kitsutaka et al. (US 6532083) discloses an image reading apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM C. STOREY whose telephone number is (571)270-3576. The examiner can normally be reached on Monday - Friday (Alternate Fridays off) 7:30-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jefferey F. Harold can be reached on 571-272-7519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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